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EXAMINER	
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ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/719,045	COOKSON ET AL.	
	Examiner	Art Unit	
	Michael V. Battaglia	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Drawings

1. The drawings are objected to because Fig. 4 has a floating "Y" above step 222. In addition, step 204 is missing an "N." If the "N" was purposefully omitted to show that the method is capable of automatically entering reverse mode (step 213), finding a clearer way of showing that is suggested. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1, 13 and 18 is objected to because of the following informalities.

a.) On line 7 of claim 1, replacing "first second" with –second-- is suggested.

b.) On line 3 of claim 13, replacing "said top side" with –said first side-- is suggested to avoid improper antecedent basis issues.

c.) On line 2 of claim 18, replacing "A0-A1-B-B0" with –A0-A1-B1-B0-- is suggested.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3 and 4 recite the limitation "said lead-in area and said lead-out area" in line 1. There is insufficient antecedent basis for this limitation in the claims because claim 1, on which claims 3 and 4 depend, has two lead-in areas and two lead-out areas, and it is unclear to which the limitation refers.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 8, 9, 11-13, 15, 20, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al (hereafter Ito) (US 5,881,032).

In regard to claim 1, Ito discloses a method of reading data on an optical disc (Figs. 2 and 4) having a first side (Figs. 2 and 4, elements L3 and L4) and a second side (Figs. 2 and 4, elements L1 and L2), each side including a lead-in (Figs. 2 and 4, area where reading beings in

L1 and area where reading begins in L3) and a lead-out area (Figs. 2 and 4, area where reading ends in L2 and area where reading ends in L4), comprising: rotating the disc (Col. 9, lines 42-43); and reading data from the lead-in area of said first side to the lead-out area of said first side (Fig. 2); and reading data from the lead-in area of said second side to the lead-out area of said first second side (Fig. 2), without stopping the disc (Col. 9, lines 35-54).

In regard to claim 2, Ito discloses that the disc has a hub (inherent in an optical disc and located within the "inside circumference" of Col. 9, line 40) and a periphery ("outer circumference" of Col. 9, line 38) and each side has a top layer (Figs. 2 and 4, elements L2 and L4) and a bottom layer (Figs. 2 and 4, elements L1 and L3) and a middle area (Fig. 2, area where reading shifts from L1 to L2 and area where reading shifts from L3 to L4), further comprising reading data with a laser head (Fig. 5, elements 5-7) and refocusing said laser head in said middle area between said top and said bottom layers (inherent to switching at the middle area between L1 and L2 and switching at the middle area L3 and L4).

In regard to claim 3, Ito discloses that said lead-in area and lead-out area are disposed at the hub (Fig. 2 and Col. 8, lines 35-45).

In regard to claim 6, Ito discloses that said lead-in area is on said bottom layer and said lead-out area is on said top layer (Fig. 2).

In regard to claim 8, Ito discloses a method of reading data from an optical disc (Figs. 2 and 4) comprising: providing an optical disc (Figs. 2 and 4) with a hub (inherent in an optical disc and located within the "inside circumference" of Col. 9, line 40) and a periphery ("outer circumference" of Col. 9, line 38), a first side (Figs. 2 and 4, elements L1 and L2) and a second side (Figs. 2 and 4, elements L3 and L4), each side having a top layer (Figs. 2 and 4, elements L2

and L4) and a bottom layer (Figs. 2 and 4, elements L1 and L3) and lead-in area (Figs. 2 and 4, area where reading beings in L1 and area where reading begins in L3), a lead-out area (Figs. 2 and 4, area where reading ends in L2 and area where reading ends in L4) and a middle area (Fig. 2, area where reading shifts from L1 to L2 and area where reading shifts from L3 to L4); reading data from said first side from said lead-in to said lead-out area (Fig. 2); switching to said second side without turning the disc over (Col. 9, lines 35-54); and reading data from said second side from said lead-in to said lead-out area (Fig. 2).

In regard to claim 9, Ito discloses reading data with a reading head (Fig. 5, elements 5-7) and refocusing said reading head at said middle area to switch between said top and bottom layers (inherent to switching at the middle area between L1 and L2 and switching at the middle area L3 and L4).

In regard to claim 11, Ito discloses reading the bottom layer before reading the top layer (Fig. 2).

In regard to claim 12, Ito discloses reading the top layer on the first side and reading the bottom layer on the second side (Fig. 2).

In regard to claim 13, Ito discloses a method of reading data from an optical disc comprising: providing an optical disc (Figs. 2 and 4) with a hub (inherent in an optical disc and located within the "inside circumference" of Col. 9, line 40) and a periphery ("outer circumference" of Col. 9, line 38), a first side (Figs. 2 and 4, elements L1 and L2) and a second side (Figs. 2 and 4, elements L3 and L4), said first side having a top layer A0 (Figs. 2 and 4, element L2) and a bottom layer A1 (Figs. 2 and 4, element L1) and said second side having a top layer B0 (Figs. 2 and 4, element L4) and a bottom layer B1 (Figs. 2 and 4, element L3) and lead-

in area (Figs. 2 and 4, area where reading beings in L1 and area where reading begins in L3), a lead-out area (Figs. 2 and 4, area where reading ends in L2 and area where reading ends in L4) and a middle area (Fig. 2, area where reading shifts from L1 to L2 and area where reading shifts from L3 to L4); reading data from said first side (Fig. 2); switching to said second side without turning the disc over (Col. 9, lines 35-54); and reading data from said second side (Fig. 2).

In regard to claim 15, Ito discloses reading data from the layers in the sequence A1-A0-B1-B0 (Fig. 2).

In regard to claim 20, Ito discloses reading data from a lead-in area disposed at the hub to a lead-out area disposed at the hub (Fig. 2 and Col. 8, lines 35-45).

In regard to claim 25, Ito discloses reading data from said first side using a laser head (Fig. 5, elements 5-7), switching said laser head to the second side (Col. 9, lines 35-54).

In regard to claim 26, Ito discloses switching said laser head from one side to another without stopping the rotation of the disc (Col. 9, lines 35-54).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito.

The bottom and top layers of Ito are relative to the apparatus of Fig. 5, which reads the disc of Figs. 2 and 4 from below. An apparatus that reproduces a disc from above is notoriously well known in the art. It would have been obvious to one of ordinary skill in the art at the time

the invention was made to use an apparatus that reproduces a disc from above, the motivation being to read the disc of Ito in players that reproduce from above. It is noted that when the disc of Figs. 2 and 4 is reproduced from above, the disc would be turned upside down and the top and bottom layers switched. Thus, claims 4 and 10 read on the method of reading the disc of Figs. 2 and 4 when the disc is being read by an apparatus the reproduces from above the disc.

6. Claims 1-3, 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al (hereafter Thompson) (US 2003/0123379) in view of O'Hara et al (hereafter O'Hara) (US 5,418,774).

In regard to claim 1, Thompson discloses a method of reading data on an optical disc (Fig. 4, element 215) having a first side and a second side, each side including a lead-in (Fig. 6, element 320) and a lead-out area (Fig. 6, elements 300 and 320 respectively; Paragraph[0062] and Paragraph[0064]), comprising: rotating the disc (inherent to playback a DVD); and reading data from the lead-in area of said first side to the lead-out area of said first side (Paragraph[0064]); and reading data from the lead-in area of said second side to the lead-out area of said first second side (Paragraph[0064]). Thompson does not disclose that the first and second sides of the disc are read without stopping the disc.

O'Hara discloses reading first and second sides of an optical disc without stopping the disc to "eliminate the necessity of the optical disc to be turned over each time each time information has been . . . reproduced from opposite side faces" (Figs. 4 and 5; Col. 2, lines 6-20; and Col. 7, line 44-Col. 8, line 24). It is noted that reading first and second sides in the manner suggested by O'Hara also eliminates the necessity of reproducing data from one of the sides "in a reverse sequence" (Col. 2, lines 30-47; and Col. 7, line 44-Col. 8, line 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to read the first and second sides of the optical disc of Thompson without stopping the disc as suggested by O'Hara, the motivating being to reproduce data from both sides of the optical disc without turning the disc over or reversing the direction of disc rotation.

In regard to claim 2, Thompson discloses that the disc has a hub (inherent to a DVD) and a periphery (inherent to a DVD) and each side has a top layer and a bottom layer (Fig. 4, element 215) and a middle area (Fig. 6, element 330), further comprising reading data with a laser head (inherent to playback of a DVD) and refocusing said laser head in said middle area between said top and said bottom layers (Paragraph[0064]).

In regard to claim 3, Thompson discloses that said lead-in area and lead-out area are disposed at the hub (Fig. 6, element 325 and Paragraph[0064]).

In regard to claim 8, Thompson discloses a method of reading data from an optical disc comprising: providing an optical disc (Fig. 4, element 215) with a hub (inherent to a DVD) and a periphery (inherent to a DVD), a first side and a second side, each side having a top layer and a bottom layer (Fig. 4, element 215) and lead-in area, a lead-out area and a middle area (Fig. 6, elements 300, 320 and 330, respectively, and Paragraph[0062 and 0064]); reading data from said first side from said lead-in to said lead-out area (Fig. 6, element 325 and Paragraph[0062 and 0064]); and reading data from said second side from said lead-in to said lead-out area (Fig. 6, element 325 and Paragraph[0062 and 0064]). Thompson does not disclose switching to said second side without turning the disc over.

O'Hara discloses reading first and second sides of an optical disc and switching to said second side without turning the disc over (Figs. 4 and 5; Col. 2, lines 6-20; and Col. 7, line 44-

Col. 8, line 24). It is noted that reading first and second sides in the manner suggested by O'Hara also eliminates the necessity of reproducing data from one of the sides "in a reverse sequence" (Col. 2, lines 30-47; and Col. 7, line 44-Col. 8, line 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to switch to the second side of Thompson read the first and second sides of the optical disc of Thompson without turning the disc over as suggested by O'Hara, the motivating being to reproduce data from both sides of the optical disc without turning the disc over or reversing the direction of disc rotation.

In regard to claim 9, Thomspson discloses reading data with a reading head (inherent to playback of a DVD) and refocusing said reading head at said middle area to switch between said top and bottom layers (Paragraph[0064]).

In regard to claim 12, Thompson discloses reading the top layer on the first side and reading the bottom layer on the second side (Paragraph[0062 and 0064]).

7. Claims 5-7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of O'Hara as applied to claims 2 and 9 above, and further in view of Lee et al (hereafter Lee) (US 2004/0032813).

In regard to claims 5-7, Thompson discloses that the lead-in area on one side is on one of the top and bottom layers and the lead-out area of the same side is on the other of the top and bottom layers to enable seamless, opposite track path (OTP) playback (Fig. 6, element 325 and Paragraph[0064]). However, because Fig. 6, element 325 of Thompson only shows one side of the double-sided, dual-layer disc of Fig. 4, element 215 (Paragraph[0062]), Thompson discloses

neither which of the top and bottom layers the lead-in and lead-out areas are on nor how the lead-in area layer on one side relates to the lead-in area layer on the other side.

Lee discloses a disc having a top layer and a bottom layer (Figs. 1-4, elements l0 and l1) including a lead-in area (Figs. 1-2, element LI of l0 and Figs. 3-4, element LI of l1) and a lead-out area (Figs. 1-2, element LO of l1 and Figs. 3-4, element LO of l0). Lee further discloses that having said lead-in area on said top layer and said lead-out area is on said bottom layer was an art-recognized equivalent to having said lead-in area on said bottom layer and said lead-out area is on said top layer at the time of the invention for the purpose of OTP playback (Figs. 1-4 and Paragraphs[0034, 0037 and 0038]).

Therefore, one of ordinary skill would have found it obvious to use in the method of Thompson either one of the arrangements of Lee, including having said lead-in area on said top layer and said lead-out area is on said bottom layer (claim 5) or having said lead-in area on said bottom layer and said lead-out area is on said top layer (claim 6), for performing OTP playback in the method of Thompson. Further, because the arrangements of the lead-in and lead-out areas on the layers of a side were art-recognized equivalents at the time of the invention for the purpose of OTP playback, one of ordinary skill would have found it obvious to use any of the four combinations of one of the arrangements on one side and one of the arrangements on the other side, including either of the two combinations where the lead-in area on one side is on the top layer and the lead in area on the other side is on the bottom layer (claim 7), for the purpose of OTP playback on both sides.

In regard to claims 10 and 11, Thompson discloses reading one layer and then reading the other layer to enable seamless, opposite track path (OTP) playback (Fig. 6, element 325 and

Paragraph[0064]). However, because Fig. 6, element 325 of Thompson only shows one side of the double-sided, dual-layer disc of Fig. 4, element 215 (Paragraph[0062]), Thompson does not disclose whether the top or bottom layer is read first.

Lee discloses a disc having a top layer and a bottom layer (Figs. 1-4, elements l0 and l1). Lee further discloses that reading the top layer before reading the bottom layer was an art-recognized equivalent to reading the bottom layer before reading the top layer at the time of the invention for the purpose of OTP playback (Figs. 1-4 and Paragraphs[0034, 0037 and 0038]).

Therefore, one of ordinary skill would have found it obvious to use in the method of Thompson either one of the arrangements of Lee, including reading the top layer before reading the bottom layer (claim 10) or reading the bottom layer before reading the top layer (claim 11), for performing OTP playback in the method of Thompson.

8. Claims 13, 20, 22, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Shinada (US 5,970,029).

In regard to claim 13, Thompson discloses a method of reading data from an optical disc comprising: providing an optical disc (Fig. 4, element 215) with a hub (inherent to a DVD) and a periphery (Fig. 4, element 215), a first side and a second side, said first side having a top layer A0 and a bottom layer A1 and said second side having a top layer B0 and a bottom layer B1 (Fig. 4, element 215) and lead-in area, a lead-out area and a middle area (Fig. 6, elements 300, 320 and 330, respectively, and Paragraph[0062 and 0064]); reading data from said first side (Fig. 6, element 325 and Paragraph[0062 and 0064]); and reading data from said second side (Fig. 6, element 325 and Paragraph[0062 and 0064]). Thompson does not disclose switching to said second side without turning the disc over.

Shinada discloses a method of switching from a first side (Fig. 2, Disk Surface A) of an optical disc (Fig. 2, element D) to the second side (Fig. 2, Disk Surface B) of an optical disc (Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Thompson to switch from the first side of Thompson to the second side of Thompson without turning the disc over as suggested by Shinada, the motivation being to enable reading of both sides of the disc of Thompson without turning the disc over.

In regard to claim 20, Thompson discloses reading data from a lead-in area disposed at the hub to a lead-out area disposed at the hub (Fig. 6, element 325 and Paragraph[0062 and 0064]).

In regard to claim 22, Shinada discloses that reading data from said first side (Figs. 2 and 4, Disk Surface A) using a first laser head (Fig. 4, element 10A) and reading data from said second side (Figs. 2 and 4, Disk Surface B) using a second laser head (Fig. 4, element 10B) was an art-recognized equivalent to reading data from said first side using a laser head (Fig. 2, element 10), switching said laser head to the second side (Fig. 2) at the time of the invention for the purpose of reading both sides of an optical disc having first and second sides without turning the disc over (Figs. 2 and 3).

Therefore, one of ordinary skill would have found it obvious to use in the method of Thompson either one of the arrangements of Shinada, including reading data from said first side using a first laser head and reading data from said second side using a second laser head, the

purpose of reading both sides of the optical disc of Thompson having first and second sides without turning the disc over.

In regard to claim 25, Shinada discloses reading data from said first side using a laser head (Fig. 2, element 10), switching said laser head to the second side (Fig. 2).

In regard to claim 26, Shinada discloses switching said laser head from one side to another without stopping the rotation of the disc (Fig. 2).

9. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Shinada, as applied to claim 13 above, and further in view of Lee.

Thompson does not disclose the sequence in which the layers are read.

Lee discloses a disc having a top layer and a bottom layer (Figs. 1-4, elements l0 and l1). Lee further discloses that reading the top layer before reading the bottom layer was an art-recognized equivalent to reading the bottom layer before reading the top layer at the time of the invention for the purpose of OTP playback (Figs. 1-4 and Paragraphs[0034, 0037 and 0038]).

Therefore, one of ordinary skill would have found it obvious to use in the method of Thompson either one of the arrangements of Lee, including reading the top layer before reading the bottom layer or reading the bottom layer before reading the top layer (claim 11), for performing OTP playback in the method of Thompson. As a result, the method of Thompson in view of Shinada and further in view of Lee is not limited in the order in which the layers of Thompson are read and data from the layers of Thompson are read in any possible sequence including A0-A1-B1-B0, A1-A0-B1-B0, A1-A0-B1-B0, A1-A0-B0-B1, A0-A1-B1-B0, and A0-B0-B1-A1.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Shinada, as applied to claim 13 above, and further in view of O'Hara et al (hereafter O'Hara) (US 5,418,774).

Thompson discloses reading data from a lead-in area to a lead-out area. Thompson further discloses that the lead-in area is on one of the top and bottom layers and the lead-out area of the same side is on the other of the top and bottom layers and immediately above or below the lead-in area to enable the seamless OTP playback (Fig. 6, element 325 and Paragraph[0064]). However, Thompson does not disclose that the lead-in area and lead-out area are disposed at the periphery.

O'Hara discloses that reading data beginning from an inner periphery of a side of an optical disc radially outward was an art-recognized equivalent to reading data from an outer periphery of the side of the optical disc radially inward at the time of the invention for the purpose of reading a side of an optical disc having first and second sides (Figs. 4 and 5 and Col. 7, line 44-Col.8, line 24).

Therefore, one of ordinary skill would have found it obvious to begin reading at either one of the inner periphery or the outer periphery in the method of Thompson, including beginning reading data at the outer periphery for the purpose of reading a side of the optical disc of Thompson having first and second sides. It is noted that when data reading is begun at the outer periphery of Thompson, both the lead-in area and lead-out are of Thompson will be disposed at the periphery of Thompson to facilitate OTP playback (see Fig. 6, element 325 of Thompson).

11. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Shinada, as applied to claim 22 above, and further in view of Lee for the same reasons as claims 14-19 above (note that A0-A1-B0-B1 and A0-B0-A1-B1 are also possible sequences).

12. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Hara in view of Carson et al (hereafter Carson) (US 2001/0024420) and further in view of Hirata (US 4,426,692).

In regard to claim 1, O'Hara discloses method of reading data on an optical disc having a first side and a second side (Figs. 4 and 5), comprising: rotating the disc; and reading data from an inner periphery of said first side radially outward to an outer periphery of said first side or reading data from an outer periphery of said first side radially inward to an inner periphery of said first side; and reading data from an inner periphery of said second side radially outward to an outer periphery of said second side or reading data from an outer periphery of said second side radially inward to an inner periphery of said second side, without stopping the disc (Figs. 4 and 5 and Col. 7, line 44-Col.8, line 24). O'Hara does not disclose that each side includes a lead-in and a lead-out area at the inner and outer peripheries, respectively or irrespectively.

Carson discloses an optical disc having a lead-in area (Fig. 1, element 104) and a lead-out area (Fig. 1, element 106) to orient and "better facilitate the reading of . . . data from the optical disc" (Paragraph[0030]). It is noted that the lead-in area of Carson is at the inner periphery of the optical disc and the lead-out area of Carson is at the outer periphery of the disc for reading data from an inner periphery of the disc radially outward to an outer periphery of the disc (Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for each side of the optical disc of O'Hara to have a lead-in area and a lead-out area as suggested by Carson, the motivation being to orient and better facilitate the reading of data from the disc. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the lead-in area to be at the inner periphery of the disc of O'Hara and for the lead-out area to be at the outer periphery of the disc of O'Hara when a side of the disc is read from the inner periphery of O'Hara radially outward as suggested by Carson, the motivation being to orient and better facilitate radially outward reading of the side/sides of the disc of O'Hara.

Hirata discloses an optical disc (Fig. 3, element 11) having a lead-in area (Fig. 3, element T5) at the outer periphery of the disc and a lead-out area (Fig. 3, element T9) at the outer periphery of the disc for reading data from an outer periphery of the disc radially inward to an inner periphery of the disc.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the lead-in area to be at the outer periphery of the disc of O'Hara and for the lead-out area to be at the inner periphery of the disc of O'Hara for a side of disc that is read from the outer periphery of O'Hara radially inward as suggested by Hirata, the motivation being to orient and better facilitate radially inward reading of the side/sides of the disc of O'Hara.

13. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Hara in view of Carson and further in view of Hirata as applied to claim 1 above, and further in view of Thompson.

In regard to claim 2, O'Hara discloses that the disc has a hub (inherent to an optical disc and located within the "inner periphery" of Col. 8, lines 2 and 12) and a periphery ("outer periphery" of Col. 7, line 66 and Col. 8, line 6). Also, O'Hara discloses reading data with a laser head (Fig. 1). O'Hara does not disclose that each side has a top layer and a bottom layer and a middle area, and that the laser head refocuses said laser head in said middle area between said top and said bottom layers.

Thompson discloses an optical disc (Fig. 4, element 215) having a first side and a second side, wherein each side has a top layer and a bottom layer (Fig. 6, layer 1 and layer 2) and a middle area (Fig. 6, element 330), and reading data with a laser head (inherent to playback of a DVD) and refocusing said laser head in said middle area between said top and said bottom layers (Paragraph[0064]) to increase the storage capacity of the disc (Paragraph[0055]) and enable seamless, opposite track path (OTP) playback.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for each side of the optical disc of O'Hara in view of Carson and further in view of Hirata to have a top layer and a bottom layer and a middle area and to refocus the inherent laser head of O'Hara in the middle area between said top and said bottom layers as suggested by Thompson, the motivation being to increase storage capacity and enable seamless, OTP playback.

In regard to claims 3 and 4, Thompson further discloses that a lead-in area on a side is on one of the top and bottom layers of the side and the lead-out area of the same side is on the other of the top and bottom layers immediately above or below the lead-in area to enable the seamless OTP playback (Fig. 6, element 325 and Paragraph[0064]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the lead-in areas of O'Hara in view of Carson and further in view of Hirata to be one side is on one of the top and bottom layers and the lead-out area of the same side is on the other of the top and bottom layers immediately above or below the lead-in area as suggested by Thompson, the motivation being to enable the seamless OTP playback. It is noted that when the side of the disc of O'Hara in view of Carson and further in view of Hirata and further in view of Thompson is read radially outward, the lead-in area and lead-out area are disposed at the hub (claim 3). Likewise, when the side of the of the disc of O'Hara in view of Carson and further in view of Hirata and further in view of Thompson is read radially inward, the lead-in area and lead-out area are disposed at said periphery (claim 4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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